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# PROMOTION AND MENTAL ILLNESS IN THE NAVY

RANSOM J. ARTHUR

E. K. ERIC GUNDERSON

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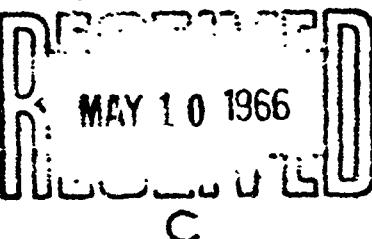
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## Promotion and Mental Illness in the Navy

RANSOM J. ARTHUR, CDR. (MC), USN, and  
E. K. ERIC GUNDERSON, PH.D., San Diego, Calif.

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THE MAGNITUDE of the problem of mental illness in our society is well known. Over half the hospital beds in the United States are occupied by mental patients. In the military organization, which may be viewed as a special subculture within the vast industrial and social complex of our society, mental illness similarly represents a major burden. Approximately 9000 Navy and Marine Corps personnel are hospitalized for psychiatric disorders each year, and mental disorders are the leading cause of invaliding from the naval service.

The relationship between emotional disorders and occupational advancement has not been established for either the military organization or civilian industry, although a close connection between mental health and work productivity is often assumed. Freud's celebrated dictum that ability to work and to love successfully is an index of mental health was an expression of this assumption.

Measurement of occupational success is a difficult practical task in any setting, although ingenious methods have been used in the study of certain groups—for example, psychiatric residents.<sup>1, 2</sup> The hierarchical structure and promotional system of the U. S. Navy provide a clear-cut public measure of occupational attainments and can be used to gauge whether any given subgroup shows a lag or acceleration of advancement. All enlisted men are grouped into levels, called pay grades, ranging from E-1 (recruit) to E-9 (master chief petty officer). Promotion is based upon standardized performance evaluations by superiors, time in grade, results of a comprehensive Navy-wide examination

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in the occupational specialty, and a quota set by the needs of the service.

The present study was undertaken to compare the promotional attainments of Navy men hospitalized for mental illness with 2 other groups: the Navy at large and a select group of volunteers for antarctic service. The study was designed to test the proposition that mental ill health was incompatible with either rapid or routine advancement in the Navy's occupational structure.

## Method

### Subjects

The hospital population studied consisted of all admissions for mental illness of male naval enlisted personnel in pay grades E-4, E-5, and E-6 over a 2-year period. This population was subdivided into single hospital admissions (2939) and multiple admissions (596). Single admissions had only one hospitalization recorded during the period under study, while multiple admissions had more than one. The mean age of the entire hospitalized population was 27.8 years. The distribution by race was 93% Caucasian, 6% Negro, and 1% other non-Caucasian. The distribution by major diagnostic categories was 10% psychoses, 31% psychoneuroses, 45% character and behavior disorders, and 14% transient personality disorders.

Data from the hospitalized population were compared with those from all enlisted personnel in pay grades E-4, E-5, and E-6 (third-class petty officer, second-class petty officer, and first-class petty officer, respectively) on active duty in the Navy during the same period and with similar data from 506 volunteers for Operation Deep Freeze (U. S. Antarctic Research Program) in the same pay grades. Deep Freeze volunteers represent a select Navy group with

respect to intelligence, education, and military performance.<sup>3,4</sup>

### Procedure

Distributions for length of service prior to hospitalization for each grade (rank) were obtained by means of computer data processing for the hospital population and the Deep Freeze sample, and reference was made to data prepared by the Bureau of Naval Personnel presenting a similar distribution for the Navy as a whole. Years of service were grouped to provide approximately normal distributions for each sample on that variable, and percentages were computed for each length-of-service category within each pay grade. These data provided a measure of the relative speed of advancement of each group in terms of the proportions of individuals achieving the particular pay grade within the specified time period.

A further comparison was made of differences among 4 groups in percentages of men with 2 years or less of service who had attained pay grade E-4 (third-class petty officer); the multiple admissions group was included in this analysis.

Finally, the single hospitalization group was subdivided into 4 groups representing major diagnostic categories upon discharge from the hospital: (1) psychosis, (2) psychoneurosis, (3) character and behavior disorder, and (4) transient personality disorder. Virtually all of the cases in the last category were diagnosed "acute situational maladjustment." Separate analyses of promotional retardation in the 4 diagnostic groups were accomplished, and the proportions of each group restored to military duty were examined. Non-Caucasians were removed from the sample for these comparisons,

since they differed from Caucasians both in promotional rate and in distribution by diagnostic category.

### Results

Results of the major analysis are presented in Table 1. Relationships are shown between advancement in pay grade and length of service for each of the 3 populations studied. For each pay grade, marked differences among the groups in distributions of length of service are evident. With 5 years or less of service, relatively fewer Deep Freeze volunteers (20%) or Navy personnel generally (25%) had failed to attain third-class status compared with the hospitalized population (37%). With 8 years or less of service, 75% of the Deep Freeze volunteers and 66% of the Navy as a whole had reached second-class petty officer status, while only 51% of those hospitalized for mental illness had done so prior to their hospitalization. There is a similar disparity among the 3 groups on the proportions attaining first-class petty officer rank before 12 years of service had been completed. Thus, relationships between advancement in rate and length of service appear to be highly consistent among the 3 groups studied over most of the enlisted man's naval career.

A further demonstration of the significant retardation in advancement of men who became hospitalized for mental illness is afforded in Fig. 1. Here the Deep Freeze sample and the Navy at large are compared with single and multiple hospital admission groups in terms of proportions attaining the grade of third-class petty officer in 2 years or less. It can be reasonably assumed that men hospitalized repeatedly for psychiatric conditions represent a more seriously maladjusted segment of the hospital pop-

TABLE 1. PERCENTAGES OF 3 NAVY ENLISTED GROUPS ATTAINING PAY GRADES E-4 TO E-6 FOR VARIOUS PERIODS OF SERVICE

Years of service	Third class (E-4)			Second class (E-5)			First class (E-6)		
	Deep Freeze	Navy	Hospital	Deep Freeze	Navy	Hospital	Deep Freeze	Navy	Hospital
0-1	7.9	12.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0
2	50.7	29.4	17.4	1.5	6.7	1.7	0.7	0.0	0.4
3-5	21.1	32.7	44.1	32.4	35.6	24.2	4.0	4.1	2.5
6-8	16.5	13.4	19.3	40.7	23.5	25.3	30.0	15.8	12.5
9-11	2.7	5.0	6.8	15.7	11.3	15.3	30.0	16.8	17.0
12-15	0.7	4.4	6.0	5.9	13.3	15.2	21.4	30.1	24.2
≥16	0.7	2.6	5.3	4.0	9.3	13.2	14.0	33.2	43.4
N	152	100,503	1,256	204	83,188	1,033	150	62,149	650

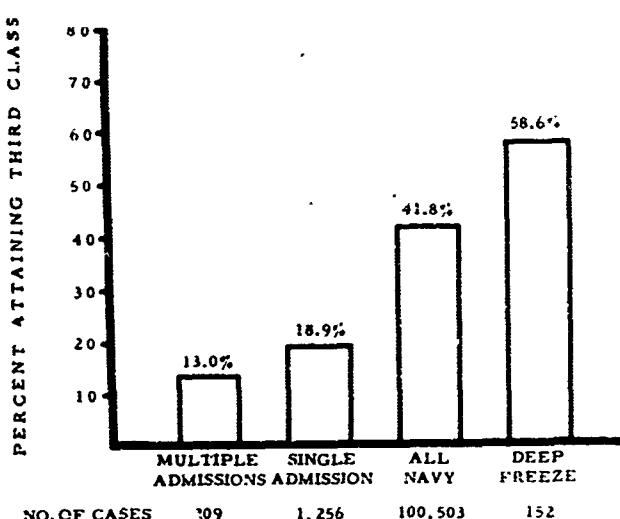


Fig. 1. Percentages of Navy enlisted groups attaining third-class petty officer status within 2 years or less of service.

ulation than men with single admissions. From Fig. 1 it is evident that not only are the hospitalized samples sharply differentiated on this criterion from the Navy generally and from Deep Freeze volunteers, but within the hospitalized population, those with multiple admissions are somewhat more retarded in advancement than are those with single admissions ( $\chi^2 = 4.1$ ,  $p < .05$ ).

Comparison of the various diagnostic groups in promotional lag revealed consistent differences among them. Figure 2 presents a comparison of proportions of the 4 diagnostic groups attaining second-class petty officer status within 8 years after enlistment. Many more of the character and behavior group (61.8%) had reached the second-class level compared with the psychoneurotic group (37.9%). Promotion-

pattern differences were similar, though less pronounced, for attainment of third-class and first-class status; the character and behavior disorder group showed least retardation in advancement and psychoneuroses most retardation in each case. For example, approximately 87% of character and behavior disorder cases had attained third-class petty officer status within 8 years compared with 75% of the psychoneurotic cases, and 20% of character and behavior patients had reached first class in 8 years compared with 11% of the psychoneurotics. The character and behavior disorder group actually showed little promotional lag, compared with the Navy as a whole, since the percentages of the total Navy reaching third class, second class, and first class within 8 years were 88%, 66%, and 20%, respectively. Over-all, the psychoneurotic group was most retarded in promotion, those with psychoses and transient personality disorders showed an intermediate degree of retardation, and those having character and behavior disorders showed least retardation.

A comparison of proportions restored to military duty by diagnostic group and rank (pay grade) is shown for 1 year for which complete data were available in Table 2. These data reflect the prognosis for successful duty for each of the groups, as judged by hospital psychiatric staffs. Transient personality disorder cases (acute situational maladjustment) clearly were thought to have the best prognoses for further service (87.4% restored) while psychotics were judged to have much less favorable prognoses (29.9% restored). Over-all, psychoneurotics had a substantially higher restoration rate (71.4%) than the character and behavior disorder category (50.1%). There was a general trend for first-class petty officers to be restored to duty more frequently than those in lower pay grades.

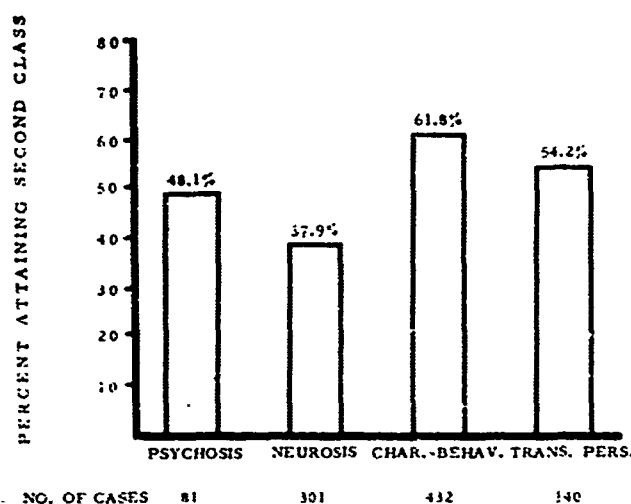


Fig. 2. Percentages of 4 diagnostic groups attaining second-class petty officer status within 8 years or less of service.

## Discussion

The results of this study confirmed the hypothesis that hospitalized psychiatric patients as a group would show significant retardation in their naval advancement prior to their hospitalization. This was true regardless of the point in their careers that hospitalization occurred. For example, during their second year of service, 29% of the total Navy, 51% of the Deep Freeze volunteers, but only 17% of the future patients were promoted to the grade of petty officer third class. The data appeared to provide a simple and straightforward positive answer to

TABLE 2. PERCENTAGES OF 4 DIAGNOSTIC GROUPS RESTORED TO DUTY

Rank (pay grade)	Diagnostic group			
	Psychosis	Psychoneurosis	Character and behavior disorder	Transient personality
Third class (E-4)				
Per cent restored	26.9	79.2	43.1	84.7
No. of cases	52	125	311	72
Second class (E-5)				
Per cent restored	25.6	63.0	47.6	87.3
No. of cases	39	157	227	71
First class (E-6)				
Per cent restored	42.3	73.8	79.6	91.1
No. of cases	26	141	93	56
3 petty-officer groups combined				
Per cent restored	29.9	71.4	50.1	87.4
Total cases	117	423	631	199

the question posed: Is mental ill health associated with retardation in promotion?

When the total sample of petty officer patients was partitioned into major diagnostic groups, however, a more differentiated picture emerged: that is, those with character and behavior disorders showed relatively little promotional retardation, while psychoneurotics consistently showed more retardation than other groups. It seemed possible that this difference in promotion rate might be accounted for by a difference in some other attribute, such as education. However, examination of the educational levels of new samples of neurotics and those with character and behavior disorders, drawn from consecutive admissions at 2 major naval hospitals, provided no support for this hypothesis, since no appreciable difference between the 2 groups in average years of education was found (11.0 years for the psychoneurotic group and 10.8 years for the group with character and behavior disorders). A more plausible argument to account for the observed difference in promotion rate might be based on the fact that almost two-thirds (65%) of all character and behavior disorder cases are hospitalized during their first 2 years of service, while only a little more than one-third (37%) of all psychoneurotics are hospitalized during their first 2 years. Presumably, the most inept performers in the character and behavior disorder category may be discharged from the service early, while inept psychoneurotics tend not to be discharged until later in their careers, if at all.

For certain groups of Navy men, evidence is available that illness may be precipitated by the

inability to be promoted. In some male officers, for example, failure to receive an expected promotion did, in fact, occasion a depressive illness.<sup>5,6</sup> However, it is also true that the rigid, compulsive personality pattern, which appears to be a common predepressive feature and which these officers displayed, had interfered with their over-all efficiency as naval officers to the extent that they were passed over for promotion. These officers were all 35 years of age or older. Depressive illnesses which were severe enough to lead to hospitalization and which followed promotional failure in enlisted men are seldom reported, perhaps because the relative youth of enlisted men as compared with officers generally places them below the age range of greatest vulnerability to depressions. However, in the case of petty officers with 12 or more years of service, promotional failure might well be a contributing factor to neuritic symptomatology.

It seems plausible that slow promotions and, ultimately, hospitalization for mental illness may often arise from similar kinds of ineffective behavior patterns, perhaps differing only in degree. Poor work adjustment or functioning on duty may occasionally contribute directly to decisions to refer for psychiatric observation; perhaps more commonly, emotional disturbances are recognized as such by superiors and may adversely influence recommendations for promotion. One possible implication of our results would be that the latter situation appears to be more typical for psychoneuroses than for character and behavior disorders.

One important function of psychiatry in the military service is to identify those individuals

who are unable to meet the everyday demands of military life as early in their careers as possible and to recommend return to civilian life or appropriate treatment. The early screening-out of borderline individuals obviously is only a partial answer to prevention of psychiatric breakdowns, since many individuals do not develop diagnosed mental disorders until after several years of service. It is assumed that in these latter individuals some combination of personality predispositions and environmental pressures results in deterioration of adjustment and military performance. However, the prognosis for restoration to military duty was generally good except for those diagnosed psychotic. Little is presently known of factors in the immediate work environment which may adversely affect the mental health of naval personnel or which may predispose an individual to develop one or another type of illness. As in civilian society, longitudinal studies will be required to reveal the full complexity of the etiology of mental illness in the military setting. Consistency of the present findings with the retardation in advancement noted for Army personnel hospitalized for psychiatric illness in another study<sup>1</sup> indicates the generality of this relationship for the military service.

Whatever the factors accounting for the relationship between retardation in promotion and hospitalization for mental illness—whether the effects of predisposing behavioral patterns, motivational responses to failure, or environmental pressures, or all of these—further investigation would appear to be a fundamental need for the understanding and management of mental illness in the Navy. These topics will be the subjects of further reports.

### Summary

This study compares the promotional attainments of 2939 enlisted men in pay grades E-4, E-5, and E-6 (third-class petty officer, second-class petty officer, and first-class petty officer, respectively) who were admitted to naval hospitals for mental illness over a 2-year period

with those of Navy enlisted men generally and those of men selected for special assignments in the Antarctic. Results indicated that the hospitalized psychiatric patients were significantly retarded in their promotion rate in the naval service, and it was inferred that mental ill health was incompatible with either routine or rapid advancement in the Navy's occupational structure. Differences were found among 4 major diagnostic groups in promotional retardation and in probability of restoration to military duty. Possible factors accounting for the relationship between retardation in promotion and hospitalization for mental illness are discussed, and the need for longitudinal studies to reveal the complex etiology of mental illness in the military service is emphasized.

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U. S. Navy Medical Neuropsychiatric Research Unit  
San Diego, Calif. 92152

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### ASPIRIN

A small-time Alsatian chemist, Charles F. vonGerhardt, apparently was the first man to make aspirin. He did so in 1853. His discovery lay idle, almost unknown until an American chemist, Felix Hoffman, began research for a similar product in 1898 and the patent was issued to his employer, Bayer, in 1900.

[Pharmaceutical Manufacturers Association News Release, February 1965]

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